994494

No 0000005

SKINNER LANDFILL

West Chester, Ohio

Skinner Landfill, West Chester, Ohio, was never licensed. It is located at 8750 Cincinnati-Dayton Road on a ridge, approximately thirty feet above the East Fork of Mill Creek. The facility contains approximately 100 drums of a variety of organic, chlorinated organic, and heavy metal substances. There is also a lagoon once used to dispose of similar bulk wastes. The owner of the facility has indicated that old demolition bombs were disposed of on-site as well. The facility was closed in the early 1970s.

Although there have been no observed releases, the potential for contamination of private drinking water wells and surface water exists.

Skinner Landfill
Project Summary

Skinner Landfill is located in West Chester, Ohio (Butler County) and is owned by Mr. & Mrs. Albert Skinner and Sons. This site was used as a sanitary landfill for several years before it closed around 1970. Reportedly Mr. Skinner disposed of some phosphorous, nerve gas, cyanide sludges and various types of demolition bombs at this site.

In late 1975 early 1976, Spray-Dyne company an aerosol and anti-freeze manufacturer, was destroyed by fire and moved to and became Chem-Dyne. Mr. Skinner was involved with Chem-Dyne; tank rigging, some barrel disposal, and tank truck cleaning operations. It is suspected that some of the wastes from Spray-Dyne and Chem-Dyne was disposed of by Mr. Skinner. These wastes were placed in an open lagoon on a 30 foot tall hill next to a small creek and were stored on the ground. A fire on Mr. Skinner's property alerted the local fire department to the existence of these lagoons. Ohio EPA went to investigate this site and were evicted from the property. A serch warrant was obtained by Ohio EPA but entry to the site was blocked by heavy equipment on the roadway. Another warrant was obtained by Ohio EPA. There were several bomb threats and death threats made by the Skinners, and the lagoons were covered with 12 to 20 feet of earth. A team composed of the U. S. Army demolition/bomb squad, USEPA and Ohio EPA visited the site under warrant in May 1976. They dug into the old lagoon, and found highly toxic C-56 manufacturing sludge waste byproduct, from Velsicol Chemical via Chem-Dyne tank trucks. They also found drums of solvent, plating waste and cyanides.

There has been no activity at the site since 1976. No one from the OEPA has been there since early 1977. The site should be re-investigated under law enforcement escort.

The site will probably leach into Mill Creek sooner or later. Additional monitoring wells should be drilled and runoff sampled. The site should then be re-capped and the materials removed.

Scope of Work:

1. Sample runoff, install monitor wells.
2. Re-cap site and/or
3. remove C-56 chlorinated materials and cyanides.

Option 1 or 2 should cost less than $100,000, and should be accomplished as soon as possible.

If the materials are required to be removed, the costs will exceel 1,000,000 and will probably approach 3 to 4 million dollars.

Status of Litigation

Ohio EPA and the State's Attorney General's Office filed suit against Skinner

to force clean up of the site. Monitor wells, and a geological survey of the site was made by H. C. Nutting and Ohio EPA.

The court ruled that while toxic waste has been buried there, it was not proven that the waste would get off-site. The Judge ruled the site a potential, not an actual threat.

References (Basis of Information)

1. Monitor Wells, H. C. Nutting Company 1976 (temporary)

2. OEPA Samples of on-site waste
   - May 1976 to ODH for heavy metals, cyanide, phenols
   - May 1976 to USEPA/MERL for GC:MS analysis.

Samples Contained
Hexachlorobutadiene, Methyl Naphthalene, Hexachloronorbornadiene, Octachlorobyclopentene, Hexachlorocyclopentadiene, chlordane, dichlorobenzene, Hexachlorobenzene, Heptachloronorborens, Octachlopenta fulualeve, cyanide, copper, lead, cadmium, zinc.

3. Geology Report of Area, OEPA, June 1976 report

4. Fire Department, Air Pollution, OEPA, fire on site 1976.

5. Population Estimates, Census 1980.

APPENDIX E
MODEL WORKSHEETS

Site Name: SKINNER LANDFILL

Location: BUTLER COUNTY

EPA Region: V

Person(s) in Charge of the Site: ALBERT SKINNER, OWNER

Name of Reviewer: KEN M. HARSH

Site Overall Score: 44.65

General Description of the Site:

(For example: landfill, surface impoundment, pile, container; types of wastes; location of the site; contamination route of major concern; types of information needed for rating; agency action, etc.)

SEE PROJECT SUMMARY

ROUTE - GROUND WATER

Rating Factor	* Basis of Information	Site Rating (Circle One)	Multiplier	Site Score	Maximum Possible Score
1 OBSERVED RELEASE (see GW 1)					
Measured Level or Evidence of Release	1, 3	0 **45**	(1)	45	45
If the site score is zero, go to step 2 otherwise, go to step 5					
2 ROUTE CHARACTERISTICS[1] (see GW 2)					
Depth to Aquifer of Concern		0 1 2 3	2		6
Net Precipitation		0 1 2 3	1		3
Permeability of Unsaturated Zone		0 1 2 3	2		6
			Subtotal		15
3 CONTAINMENT[1,2] (see GW 3)					
Containment		0 1 2 3	1		3
4 POTENTIAL FOR RELEASE					
Multiply site score from 2 by site score from 3. The product is site rating for this route			1		45
5 RELEASE					
Enter site score from 1 or 4				45	45
6 WASTE CHARACTERISTICS[1,3] (see GW 4)					
Physical State	2	0 1 2 (3)	1	3	3
Persistence	2	0 1 2 (3)	2	6	6
Toxicity/ Infectiousness	2	0 1 2 (3)	2	6	6
			Subtotal	15	15
7 HAZARDOUS WASTE QUANTITY[1] (see GW 5)					
Total Waste Quantity (by Superfund definition) excluding waste that is totally contained	INVENTORY	0 1 2 3 4 (5)	1	5	5
8 TARGETS[1] (see GW 6)					
Ground Water Use	STATE RECORDS	0 1 2 (3)	3	9	9
Distance to Nearest Well/Population Served	11	0 1 2 (3)	3	9	9
Population Served by Ground Water Within 3 Mile Radius	11	0 1 (2) 3 4 5	6	12	30
			Subtotal	30	48
9 GROUND WATER ROUTE SUBTOTAL					
A. Multiply 5 x 6 x 7 x 8	45 x 15 x 5 x 30			101,250	162,000
B. Multiply [A.] by Normalization Factor of 0.6 and Divide by 1,000			0.6	60.75 [9.] Route Subtotal	97.2

[1] A rating of zero should be entered when data is unavailable to rate an adverse factor. A rating of 1 should be entered when data is unavailable to rate a multiplicative category such as the waste quantity or containment. A total of 5% missing data for the entire site is allowed when rating a site.

[2] If the site has more than one type of containment (e.g., surface impoundment, landfill, containment, detention or cases separately and enter the score from the worst case.

[3] Rate the five most hazardous wastes. Select the one with the highest subtotal score and enter that score.

* See References

ROUTE - SURFACE WATER

Rating Factor	Basis of Information	Site Rating (Circle One)	Multiplier	Site Score	Maximum Possible Score
1 OBSERVED RELEASE (ref SW 1)					
Measured level or evidence of release		(0) 45	1	0	45
If the site score is zero, go to step 2 otherwise, go to step 5					
2 ROUTE CHARACTERISTICS[1] (ref SW 2)					
Site Slope and Terrain	FIELD INVESTIG. 3	0 1 2 (3)	1	3	3
1 Year 24 Hour Rainfall	STATE RECORDS	0 1 (2) 3	1	2	3
Distance to Surface Water	"	0 1 2 (3)	1	3	3
Flood Potential	"	(0) 1 2 3	2	0	6
			Subtotal	8	15
3 CONTAINMENT[1,2] (ref SW 3)					
Containment	FIELD INVESTIG	0 1 (2) 3.	1	2	3
4 POTENTIAL FOR RELEASE					
Multiply site score from 2 by site score from 3. The product is site rating for this route.			1	16	45
5 RELEASE					
Enter site score from 1 or 4				16	45
6 WASTE CHARACTERISTICS[1,3] (ref SW 4)					
Physical State	2	0 1 2 (3)	1	3	3
Toxicity/ Infectiousness	2	0 1 2 (3)	2	6	6
Persistence	2	0 1 2 (3)	2	6	6
			Subtotal	15	15
7 HAZARDOUS WASTE QUANTITY[1] (ref SW 5)					
Total Waste Quantity (by Superfund definition) excluding waste that is totally contained	INVENTORY	0 1 2 3 4 (5)	1	5	5
8 TARGETS[1] (ref SW 6)					
Surface Water Use	STATE RECORDS	0 (1) 2 3	3	3	9
Critical Habitats	"	(0) 1 2 3	2	0	6
Population Served by Surface Water With Water Intake Within 3 Miles Downstream From Site	"	(0) 1 2 3 4 5	6	0	30
			Subtotal	3	45
9 SURFACE WATER ROUTE SUBTOTAL					
A. Multiply 5 x 6 x 7 x 8				3600	151,875
B. Multiply [A.] by normalization factor of 0.64 and divide by 1,000			0.64	2.3 [B.] Route Subtotal	97.2

ROUTE - AIR

Rating Factor	Basis of Information	Site Rating (Circle One)	Multiplier	Site Score	Maximum Possible Score
1	OBSERVED RELEASE* (ref. A 1)				
Evidence of Release	EPA personnel overcome - May 76 US EPA samples positive for CN	0 (45)	1	45	45
If the site score is zero, the route subtotal score is zero, otherwise, go to Step 2					
2	RELEASE				
Enter site score from 1				45	45
3	WASTE CHARACTERISTICS[1,3] (ref. A 2)				
Physical State/ Volatility	2	0 1 2 (3)	1	3	3
Reactivity	2	0 (1) 2 3	1	1	3
Incompatibility	2	0 1 2 (3)	1	3	3
Toxicity/ Infectiousness	2	0 1 2 (3)	2	6	8
			Subtotal	13	15
4	HAZARDOUS WASTE QUANTITY[1] (ref. A 3)				
Total Waste Quantity	U.S. EPA May 76	0 1 2 3 4 (5)	1	5	5
(by Superfund definition) excluding waste that is totally contained					
5	TARGETS[1] (ref. A 4)				
Distance to Nearest Population	5	0 1 (2) 3	2	4	6
Population Within 1 Mile Radius	5	0 1 2 (3) 4 5	5	15	25
Critical Environments		(0) 1 2 3	2	0	6
Land Use	5	0 1 (2) 3	1	2	3
			Subtotal	21	40
6	AIR ROUTE SUBTOTAL				
A. Multiply 2 x 3 x 4 x 5				6125	135,000
B. Multiply [A] by normalization factor of 0.72 and divide by 1,000			0.72	44.23 [B.] Route Subtotal	97.2

*Only air monitoring data will be considered as evidence of release.

ROUTE - DIRECT CONTACT

Rating Factor	Basis of Information	Site Rating (Circle One)	Multiplier	Site Score	Maximum Possible Score
1 OBSERVED RELEASE* (ref DC 1)					
Evidence of Contact		0 (45)	1	45	45
If the site score is zero, go to step 2. Otherwise, go to step 5					
2 ROUTE CHARACTERISTICS (ref DC 2)					
Accessibility of Waste		0 15	1		15
3 CONTAINMENT[1,2] (ref DC 3)					
Containment		0 1 2 3	1		3
4 POTENTIAL FOR RELEASE					
Multiply site score from 2 by site score from 3. The product is site rating for this route.			1		45
5 RELEASE					
Enter site score from 1 or 4				45	45
6 WASTE CHARACTERISTICS[1,3] (ref DC 4)					
Toxicity/ Infectiousness		0 1 2 (3)	5	15	15
7 TARGETS[1] (ref DC 5)					
Population Within 1 Mile Radius		0 1 2 (3) 4 5	4	12	20
Critical Habitat		(0) 1 2 3	2	0	6
Land Use		0 1 (2) 3	2	4	6
			Subtotal	16	32
8 DIRECT CONTACT ROUTE SUBTOTAL					
A. Multiply 5 x 6 x 7				10,800	21,600
B. Multiply [A.] by normalization Factor of 4.5 and divide by 1,000			4.5	48.6 [B.] Route Subtotal	97.2

*Health report certified by a physician will be considered as sufficient evidence.

AGGREGATE SITE RATING

Route	Route Subtotal from 6 or 9	Route Subtotal Squared	Maximum Possible Score
Ground Water	60.75	3690.56	$(97.2)^2 = 9447.84$
Surface Water	2.3	5.29	$(97.2)^2 = 9447.84$
Air	44.23	1956.293	$(97.2)^2 = 9447.84$
Sum		5652.14	28,343.52
Square Root of Sum		75.18	168.36
Overall Score* = $\frac{\text{sum} \times 100}{168.36}$		44.65	100

FIRE AND EXPLOSION

Route Subtotal from 8	Maximum Possible Score
	97.2
Adjusted Score = $\frac{\text{Route Subtotal} \times 100}{97.2}$	

DIRECT CONTACT

Route Subtotal from 8	Maximum Possible Score
48.6	97.2
Adjusted Score = $\frac{\text{Route Subtotal} \times 100}{97.2}$	50

*The overall and adjusted scores will be between 0 and 100. The maximum overall score for a site with only one exposure route is 57.7.